

### **Remarks**

This letter is in response to the Office Action mailed May 16, 2006. Claims 1, 2, 4-16 and 19 are indicated as rejected, claims 18 and 20 are objected to, and claims 3, 17 and 21-100 are indicated as withdrawn from consideration. The Restriction Requirement has been made final and is addressed below, where Applicant respectfully requests reconsideration of same. Reconsideration of the rejections and objections is respectfully requested for the reasons set forth in detail below.

### **Restriction Requirement**

Applicant again respectfully requests reconsideration of the restriction requirement in light of language in the Office Action that indicate that Applicant's prior remarks may have been misinterpreted. Specifically, the May 16, 2006 Office Action states at page 2 that "[t]he traversal is on the ground(s) that the species are generic to one another. Species I – IV are generic to one another and therefore should be considered a single species. This is not found persuasive because the species are clearly distinct."

Applicant respectfully notes for the record that, while the grounds for traversal include Applicant's belief that the alleged species overlap (i.e. certain species are generic to others), Applicant did not state in his reply to the September 23, 2005 Restriction Requirement that Species I – IV are generic to one another. Applicant respectfully notes that the response was not attempting to make any statement as to whether the species are patently distinct or not.

Applicant respectfully requests reconsideration and withdrawal of the restriction requirement, or at the very least that a concise statement as required by MPEP §808.01 be made of record that includes the particular reasons relied on by the examiner for holding that the inventions as claimed are either independent or distinct.

The claims indicated by the Examiner as rejected are addressed substantively below.

### **35 U.S.C. § 102 Claim Rejections**

Claims 1, 2, 4-7, 9, 10, 13-16 and 19 have been rejected under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 6,275,748 (Bacchi et al.). A rejection

under §102 requires that each and every element as set forth in the claim be set forth in the cited reference. Reconsideration and withdrawal of such 102 rejections is respectfully requested, since Bacchi et al. does not teach all claimed elements.

Bacchi et al. is alleged to teach an endeffector for handling semiconductor wafers as set forth in claim 1. However, contrary to the assertion in the Office Action, Bacchi et al. does not teach “a biasing member placed in association with the piston, the biasing member biasing the piston toward its retracted position.” Furthermore, Bacchi et al. does not teach “a pneumatic actuator in operative association with the piston, the pneumatic actuator being configured to receive a pressurized gas that is used to overcome a force being applied to the piston by the biasing member and move the piston from the retracted position to an extended position.”

The Office Action alleges at page 3 that the piston, biasing member and pneumatic actuator are taught by Bacchi et al. by making reference to piston 52, spring 155 and actuating mechanism 151 discussed in Bacchi et al., and particularly discussion at col. 5, ll. 62-67 and col. 6, ll. 1-40.

Although Bacchi et al. does disclose a moveable piston, Bacchi et al. does not teach a moveable piston as presently claimed. Specifically, the alleged biasing member of Bacchi et al. does not “bias the piston toward its retracted position” as required by claim 1. Instead, in Bacchi et al., the situation is reversed, and the biasing member actually holds the piston in the extended, not the retracted, position. See col. 9, ll. 29-34 (“in this embodiment, **piston 152** reciprocates within a bore 154 and **is urged by a spring 155 to extend** active contact point 150 **and by a vacuum pressure to retract** active contact point 150.”) (emphasis added). See also col. 9, ll. 40-45 (“spring 155 presses against the face of piston 152 to extend active contact point 150 to the wafer-gripping position, whereas the vacuum pressure acts through vacuum chamber 160 against the face of piston 152 to overcome the spring force and retract active contact point 150 to the wafer-releasing position.”).

Furthermore, as indicated by the above discussion of the use of vacuum pressure, it is apparent that Bacchi et al. does not teach “the pneumatic actuator being configured to **receive** a pressurized gas that is used to overcome a force . . .” as set

forth in the claims. Instead, as indicated by the above quoted passages, in Bacchi et al. vacuum pressure is used and not the introduction of pressurized gas. Applicant respectfully notes that the passages from Bacchi et al. cited in the Office Action at col. 5 and col. 6 also discuss the use vacuum pressure and not receiving a pressurized gas.

Bacchi et al. is alleged to teach that, as required by claim 6, "the force applied to the piston by the biasing member increases as the piston is extended." However, as noted above, in Bacchi et al. the spring is configured to extend the active contact point, and therefore, as the contact point is extended farther, less force would be applied by the spring. Therefore, Applicant respectfully submits that Bacchi et al. teaches the opposite of what is claimed.

Regarding claim 7, the Office Action alleges that elements 64 and 66 correspond to the claimed first and second gas line "configured to feed a gas into the pneumatic actuator while moving the driving member out of the pneumatic actuator" and "configured to feed a gas into the pneumatic actuator for retracting the driving member..."

However, as noted at col. 6, ll. 17-20, channels 64 and 66 are not configured to feed a gas into the pneumatic actuator, but are instead configured to apply vacuum pressure: ("The vacuum pressure source is routed to first and second channels 64 and 66 through rotary vacuum communication spools in robot arm 16."). Applicants respectfully assert that the Bacchi et al. discussion of applying vacuum pressure does not teach feeding gas into an actuator.

Regarding claim 9, Bacchi et al. is alleged to teach "at least one position sensor for sensing the position of the piston" by way of elements 80 and 82. However, Applicant respectfully directs the Examiner's attention to col. 7, ll. 11-26, which identifies elements 80 and 82 not as "position sensors" but as "sensor housings" in its discussion of "wafer edge sensors." Applicant respectfully submits that Bacchi et al.'s discussion of wafer edge sensors does not teach a sensor that senses the position of the piston.

Regarding claim 15, Bacchi et al.'s teaching of an airtight bore 154 is alleged to correspond to the claimed aspect of the present subject matter "wherein the biasing member and pneumatic actuator are contained in a housing defined by the base

member.” However, Applicant respectfully notes that Figure 8 shows that the airtight bore 154 is not the same thing as element 10 (110) which is alleged to correspond to the “base member” earlier in the Office Action.

Regarding Figure 8, the airtight bore, which is a portion of the active contact point actuating mechanism 151, is discussed as a separate element from the endeffector 110. See col. 9, ll. 25-27 (“Referring again to Figure 8, a second embodiment of an active contact point actuating mechanism 151 is shown employed with endeffector 110.”).

Applicant respectfully requests reconsideration and withdrawal of the § 102 rejections, since as discussed above, Bacchi et al. does not teach all elements presently claimed.

### **35 U.S.C. § 103 Claim Rejections**

Claims 8, 11 and 12 have been rejected under 35 U.S.C. § 103(a). Specifically, claim 8 has been rejected over Bacchi et al. in view of U.S. Patent Application Publication No. 2002/0015636 (Lee et al.), while claims 11 and 12 are rejected as allegedly obvious modifications of Bacchi et al. As an initial matter, Applicant respectfully notes that claims 8, 11 and 12 all depend from claim 1, which, as noted above, contains limitations that are not taught by Bacchi et al. Therefore, for at least such reasons, the § 103 rejections should be withdrawn.

Regarding claim 8, the Office Action acknowledges that Bacchi et al. does not disclose a suction device positioned adjacent to the pneumatic actuator and configured to create a suction force for capturing any particles that are released during the movement of the piston. Lee et al. is alleged to teach a suction unit and particle filter, and it is alleged that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Bacchi et al. endeffector to include a suction device for filtering out contaminants as taught by Lee et al., in order to prevent contaminated air from gas vents from reaching the semiconductor wafer. Applicant respectfully notes that, as discussed above, the piston in Bacchi et al. is actuated through use of vacuum pressure. Since Bacchi et al. operates through use of vacuum pressure, and not through introduction of gas to the piston, it is not clear why or where the “contaminated

air from the gas vents" could be a concern in Bacchi et al. Therefore, Applicant respectfully submits that a motivation to combine is lacking in this instance.

Claims 11 and 12 have been rejected as allegedly obvious modifications of Bacchi et al. The Office Action acknowledges that Bacchi et al. does not disclose the particularly claimed endeffector heights. However, the Office Action does not indicate any teaching of how such heights would be selected, either in Bacchi et al. or via reference to any other teaching. Therefore, Applicant respectfully asserts that such §103 rejection is improper, and requested reconsideration and withdrawal of the same.

### Conclusion

Applicant respectfully requests withdrawal and reconsideration of the rejections of the presently-pending claims since the cited references, either alone or in combination with one another, do not teach all presently claimed elements. In light of the foregoing remarks, the claims are believed to be in a condition for allowance, and action to that end is respectfully requested.

Examiner Okezie is invited and encouraged to telephone the undersigned should any issues remain outstanding.

Please charge any additional fees required by this Response to Deposit Account No. 04-1403.

Respectfully submitted,

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Date